



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/700,316	11/14/2000	Lars-Olof Ohberg	1878/00037	4171
7590	09/21/2005			EXAMINER SAADAT, CAMERON
EDWARD A. PENNINGTON SWIDLER BERLIN SHEREFF FRIEDMAN, LLP 3000 K STREET SUITE 300 WASHINGTON, DC 20007			ART UNIT 3713	PAPER NUMBER
DATE MAILED: 09/21/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	09/700,316	OHBERG ET AL.	
	Examiner Cameron Saadat	Art Unit 3713	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 25 July 2005.  
 2a) This action is FINAL.                    2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 18 and 20-22 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 18 and 20-22 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|  | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 7/25/2005 has been entered. Claims 18 and 20-22 are pending in this application. Claim 19 is cancelled.

### *Claim Rejections - 35 USC § 112*

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 18 and 20-22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The antecedent basis for "the measured results" and "the known desired results" has not been clearly set forth.

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.

2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

**Claims 18, 20-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watson (Distributed Simulation Testing for Weapons System Performance of the F/A-18 and AIM-120 AMRAAM) in view of Batchman et al. (USPN 5,605,307; hereinafter Batchman).**

Regarding claim 18, Watson discloses a method for simulating a missile using a missile simulator during testing of an aircraft which includes a weapon system for controlling missiles with which the aircraft may be equipped, the method comprising: generating a target seeker command position operative to command a target seeker of a missile to adopt a predetermined position, wherein the target seeker is assumed to move at finite speeds; receiving the target seeker command position at the weapon system; simulating the behavior of the missile in a computer model to generate an actual value signal adapted to the weapon system; generating in the weapon system a trouble signal from a deviation between the target seeker command position and the actual value signal; wherein the trouble signal is measured continuously and wherein the error in amplitude and phase angle comprises a difference between a vector corresponding to the target seeker command position and a vector corresponding to the target seeker actual position, are determined and sent to the computer model in the missile simulator (See Fig. 5, Signal Generation System and Target Positioning System); using the trouble signal as a control signal for the target seeker; and repeating these steps (See Abstract; P. 4 – P. 5; Fig. 5 Computer Control System, Signal Generation System, and Target Positioning System).

The target seeker described in Watson is capable of movement in six degrees of freedom. Watson discloses all of the claimed subject matter with the exception of explicitly disclosing that the target seeker's movement is constrained to a single plane. However, Batchman teaches a missile guidance system wherein the movement of the missile target seeker is constrained to a single plane (See

Fig. 4; Col. 5, lines 15-49). Thus, in view of Batchman, it would have been obvious to one of ordinary skill in the art to modify the target seeker movement described in Watson, by constraining the missile's target seeker movement to a single plane, in order to simulate missiles in accordance to their performance capability, wherein a missile typically has more flight options if the flight is to be terminated early on a nearer target than if it is to be extended to reach a further target (Batchman, Col. 5, lines 47).

Regarding claim 20, Watson discloses a method wherein for each measured trouble signal the computer model calculates a corresponding actual value signal (See Fig. 5).

Regarding claim 21, Watson discloses a method wherein for each trouble signal the computer model determines a new vector including an amplitude and a phase angle of the new target seeker command position (See Fig. 5, Signal Generation System and Target Positioning System).

**Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Watson (Distributed Simulation Testing for Weapons System Performance of the F/A-18 and AIM-120 AMRAAM) in view of Batchman et al. (USPN 5,605,307; hereinafter Batchman), further in view of Phillips.**

Regarding claim 22, the combination of Watson and Batchman discloses all of the claimed subject matter with the exception of explicitly disclosing that the actual value signal is reproduced from a *time-discrete vector*. However, Phillips teaches a method of modeling a feedback control system comprising time discrete signals (See P. 468). Hence, it would have been obvious to one of ordinary skill in the art to modify the feedback system described in Watson, by applying a linear time-invariant discrete feedback system, in light of the teachings of Phillips, in order to allow modeling of *digital* controllers that can accept information only at discrete values of time (see Phillips P. 469).

#### *Response to Arguments*

Applicant's arguments with respect to claims 18, 20-22 have been considered but are moot in view of the new ground(s) of rejection.

*Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cameron Saadat whose telephone number is (571) 272-4443. The examiner can normally be reached on M-F 9:00 - 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Xuan Thai can be reached on (571) 272-7147. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Cameron Saadat  
September 14, 2005

  
XUAN M. THAI  
SUPERVISORY PATENT EXAMINER  
